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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/422,208	10/19/1999	JAMES PRICE COFFIN IV	MASIMO.186A	5251

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Knobbe Martens Olson & Bear LLP
620 Newport Center Drive
Sixteenth Floor
Newport Beach, CA 92660

EXAMINER

LEE, SHUN K

ART UNIT	PAPER NUMBER
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2878

DATE MAILED: 05/22/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/422,208

Applicant(s)

COFFIN, JAMES PRICE

Examiner

Shun Lee

Art Unit

2878

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 05 March 2002.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 7-24 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 7-24 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 10/19/99 & 3/5/02 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Response to Amendment

1. The papers filed on 5 March 2002 (certificate of mailing dated 27 February 2002) have not been made part of the permanent records of the United States Patent and Trademark Office (Office) for this application (37 CFR 1.52(a)) because of damage from the United States Postal Service irradiation process. The above-identified papers, however, were not so damaged as to preclude the USPTO from making a legible copy of such papers. Therefore, the Office has made a copy of these papers, substituted them for the originals in the file, and stamped that copy:

**COPY OF PAPERS
ORIGINALLY FILED**

If applicant wants to review the accuracy of the Office's copy of such papers, applicant may either inspect the application (37 CFR 1.14(d)) or may request a copy of the Office's records of such papers (*i.e.*, a copy of the copy made by the Office) from the Office of Public Records for the fee specified in 37 CFR 1.19(b)(4). Please do **not** call the Technology Center's Customer Service Center to inquiry about the completeness or accuracy of Office's copy of the above-identified papers, as the Technology Center's Customer Service Center will **not** be able to provide this service.

If applicant does not consider the Office's copy of such papers to be accurate, applicant must provide a copy of the above-identified papers (except for any U.S. or foreign patent documents submitted with the above-identified papers) with a statement that such copy is a complete and accurate copy of the originally submitted documents.

If applicant provides such a copy of the above-identified papers and statement within **THREE MONTHS** of the mail date of this Office action, the Office will add the original mailroom date and use the copy provided by applicant as the permanent Office record of the above-identified papers in place of the copy made by the Office. Otherwise, the Office's copy will be used as the permanent Office record of the above-identified papers (*i.e.*, the Office will use the copy of the above-identified papers made by the Office for examination and all other purposes). This three-month period is not extendable.

Drawings

2. The corrected or substitute drawings were received on 5 March 2002. These drawings are acceptable.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Neefe (US 4,632,773) in view of Shibata *et al.* (US 4,236,181).

In regard to claim 7, Neefe discloses a method of testing a substantially transparent product comprising:

- (a) incorporating fluorescent colorant with a product (column 2, lines 5-7); and
- (b) exposing the product to ultraviolet light (column 2, lines 22-27).

Neeffe also teach (column 3, lines 62-64) that the product is made by a molding process and (column 2, lines 22-27) that the emitted radiation from the product is detectible as a color in the visible wavelength region. The method of Neeffe lacks a step of examining the product with an optical testing device. Shibata *et al.* teach examining a product with an optical testing device (see Fig. 1; column 1, lines 15-18) which is responsive to the luminance from a product (column 7, lines 3-8) in order to determine if there is incomplete separation of the molded article from the injection mold (column 1, lines 8-18). Therefore it would have been obvious to one having ordinary skill in the art to examine with an optical testing device the fluorescent colorant luminance in the method of Neeffe, in order to determine if there is incomplete separation of the molded article from the injection mold as taught by Shibata *et al.*

5. Claims 8-24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hill *et al.* (US 5,656,210) in view of Neeffe (US 4,632,773) and Shibata *et al.* (US 4,236,181).

In regard to claims 8, 12, and 13, Hill *et al.* disclose (column 2, lines 54-59) fabrication by RIM (*i.e.*, injection molding) of IPN (*i.e.*, interpenetrating polymer network) material (column 2, line 34 to column 3, line 12). Hill *et al.* also teach it is known in the art (as exemplified by Neeffe; column 2, line 66 to column 3, line 3) to incorporate a fluorescent colored pigment with the IPN material in order to obtain identifiable lens material. Hill *et al.* further teach steps of injecting molding material into a mold to create a workpiece (column 12, lines 3-9), releasing the mold, and removing the remaining molding material (column 13, lines 60-63). The method of Hill *et al.* lacks a step of

detecting remaining molding material in at least a portion of the mold. Shibata *et al.* teach examining a product with an optical testing device (see Fig. 1; column 1, lines 15-18) which is responsive to the luminance from a product (column 7, lines 3-8) in order to determine if there is incomplete separation of the molded article from the injection mold (column 1, lines 8-18). Therefore it would have been obvious to one having ordinary skill in the art to provide a step of directing ultraviolet light to at least a portion of the mold and detecting luminance from fluorescent colorant of remaining molding material in the method of Hill *et al.*, in order to determine if there is incomplete separation of the molded article from the injection mold (*i.e.*, that the remaining molding material comprises either the workpiece or portions of the workpiece) as taught by Shibata *et al.*

In regard to claim **14** which is dependent on claim 8, Hill *et al.* also disclose that Neefe teaches inspection of a workpiece containing a fluorescent colorant (column 2, line 66 to column 3, line 3). The method of Hill *et al.* lacks an explicit description of directing ultraviolet light onto the workpiece containing a fluorescent colorant. Neefe teaches that luminance from fluorescent colorant occurs by directing ultraviolet light onto the workpiece (column 2, lines 22-27). Therefore it would have been obvious to one having ordinary skill in the art to provide a step of directing ultraviolet light to the workpiece in the method of Hill *et al.*, in order to inspect the injection molding material.

In regard to claims **15**, **19**, and **20**, Hill *et al.* disclose (column 2, lines 54-59) fabrication by RIM (*i.e.*, injection molding) of IPN (*i.e.*, interpenetrating polymer network) material (column 2, line 34 to column 3, line 12). Hill *et al.* also teach it is known in the art (as exemplified by Neefe; column 2, line 66 to column 3, line 3) to incorporate a

fluorescent colored pigment with the IPN material in order to obtain identifiable lens material. Hill *et al.* further teach steps of injecting molding material into a mold to create a workpiece (column 12, lines 3-9), releasing the mold, and removing the remaining molding material (column 13, lines 60-63). The system of Hill *et al.* lacks a step of detecting any leftover flowable material within the mold. Shibata *et al.* teach examining a product with an optical testing device (see Fig. 1; column 1, lines 15-18) which is responsive to the luminance (defined¹ as “the condition or quality of being luminous or emitting light, especially emitting self-generated light”) from a product (column 7, lines 3-8) in order to determine if there is incomplete separation of the molded article from the injection mold (column 1, lines 8-18). Therefore it would have been obvious to one having ordinary skill in the art to provide detection of luminance from fluorescent colorant of leftover flowable material in the mold in the system of Hill *et al.*, in order to determine if there is incomplete separation of the molded article from the injection mold (*i.e.*, that the leftover flowable material comprises either the workpiece or portions of the workpiece) as taught by Shibata *et al.*

In regard to claim 21, Hill *et al.* disclose (column 2, lines 54-59) fabrication by RIM (*i.e.*, injection molding) of IPN (*i.e.*, interpenetrating polymer network) material (column 2, line 34 to column 3, line 12). Hill *et al.* also teach it is known in the art (as exemplified by Neeffe; column 2, line 66 to column 3, line 3) to incorporate a fluorescent colored pigment with the IPN material in order to obtain identifiable lens material. Hill *et al.* also disclose that Neeffe teaches inspection of a workpiece containing a fluorescent colorant (column 2, line 66 to column 3, line 3). Neeffe teaches directing a

first light of a wavelength not visible to humans toward a workpiece with sufficient energy to cause the fluorescent colorant in the workpiece to emit a second light of a wavelength visible to humans (column 2, lines 22-27). The system of Hill *et al.* lacks an inspection device which inspects the workpiece by detecting the second light.

Shibata *et al.* teach examining a product with an optical testing device (see Fig. 1; column 1, lines 15-18) which is responsive to the luminance (defined¹ as “the condition or quality of being luminous or emitting light, especially emitting self-generated light”) from a product (column 7, lines 3-8) in order to determine if there is incomplete separation of the molded article from the injection mold (column 1, lines 8-18).

Therefore it would have been obvious to one having ordinary skill in the art to provide an inspection device responsive to the luminance which comprises of the second light from the fluorescent colorant in the system of Hill *et al.*, in order to determine if there is incomplete separation of the molded article from the injection mold as taught by Shibata *et al.*

In regard to claims **9** and **11** (which are dependent on claim 8), claims **16** and **18** (which are dependent on claim 15), and claims **22** and **24** (which are dependent on claim 21), Hill *et al.* also disclose that the IPN is formulated to obtain substantially transparent material (column 6, lines 5-18). Hill *et al.* also teach it is known in the art (as exemplified by Neeffe; column 2, line 66 to column 3, line 3) to incorporate a fluorescent colored pigment with the IPN material in order to obtain identifiable lens material. The method and system of Hill *et al.* lacks an explicit description that the fluorescent colorant is substantially transparent. Neeffe teach that the fluorescent

colorant does not change the color of the material (column 2, lines 58-61). Therefore it would have been obvious to one having ordinary skill in the art to provide a substantially transparent fluorescent colorant in the method and system of Hill *et al.*, in order that the color of the material be unchanged.

In regard to claim **10** (which is dependent on claim 8), claim **17** (which is dependent on claim 15), and claim **23** (which is dependent on claim 21), Hill *et al.* also disclose that the IPN is formulated to obtain substantially transparent material (column 6, lines 5-18).

Response to Arguments

6. Applicant's arguments filed 5 March 2002 have been fully considered but they are not persuasive.

Applicant argues (last two paragraphs on pg. 5 to last paragraph on pg. 6 of remarks filed 5 March 2002) that the tagging principles of the cited art are not relevant to the instant invention and thus the cited art fails to teach or suggest a method of testing a substantially transparent product with an optical testing device where the testing device is responsive to the fluorescent colorant in the workpiece when exposed to ultraviolet light. Examiner respectfully disagrees. First it should be noted that luminance is defined¹ as "the condition or quality of being luminous", luminous is defined¹ as "emitting light, especially emitting self-generated light", luminescence is defined¹ as "the emission of light that does not derive energy from the temperature of the emitting body, as in phosphorescence, fluorescence, and bioluminescence", and

ambient is defined¹ as “surrounding” or “encircling”. Shibata *et al.* disclose (column 6, lines 15-28) “The brightness measured by the respective photosensors are compared with the predetermined standard level of brightness. The standard level can be determined in accordance with either the luminance of the image of the background of the plastic article, i.e. the surface of the mold, or the luminance of the plastic article. Actually, the standard level is set therebetween considering the variation in the ambient light. Further, it is preferred to provide a monitoring photosensor to shift the standard level according to the variation in the ambient light.” Thus Shibata *et al.* teach that a standard level can be set based on the ambient light (*i.e.*, surrounding light) or the plastic article luminance (*i.e.*, light emitted by the plastic article) but is silent as to what causes the plastic article to emit light. Neefe was cited as teaching (column 2, lines 5-7 and 22-27) that the emitted radiation from a product (incorporating a fluorescent colorant) exposed to ultraviolet light is detectible as a color in the visible wavelength region. Thus the emitted radiation is the luminance of the fluorescent colored product of Neefe. Second it should be noted that an article or product emitting light is perceived to be either colored or white. Neefe teach the observation of this emitted light (see abstract) with the prior art example (see column 1, lines 12-14) that added fluorescent material makes an article or product visible (*i.e.*, observation is by visual observation). Shibata *et al.* teach (see Fig. 1; column 1, lines 15-18) the observation of this emitted light with a watching device (*i.e.*, an optical testing device). Neefe also teach (column 3, lines 62-64) that an article or product is made by a mold process. Shibata *et al.* also teach (column 1, lines 8-18) that the watching device (*i.e.*, an optical testing device) is

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used to determine if there is incomplete separation of a molded article from the injection mold. Therefore it would have been obvious to one having ordinary skill in the art to provide an optical testing device to observe the fluorescent colorant luminance in the method of Neeffe, in order to determine if there is incomplete separation of the molded article from the injection mold as taught by Shibata *et al.*

In response to applicant's argument (last four paragraphs on pg. 7 of remarks filed 5 March 2002) that the examiner's conclusion of obviousness is based upon improper hindsight reasoning, it must be recognized that any judgment on obviousness is in a sense necessarily a reconstruction based upon hindsight reasoning. But so long as it takes into account only knowledge which was within the level of ordinary skill at the time the claimed invention was made, and does not include knowledge gleaned only from the applicant's disclosure, such a reconstruction is proper. See *In re McLaughlin*, 443 F.2d 1392, 170 USPQ 209 (CCPA 1971). First, examiner respectfully disagrees that Shibata *et al.* teaches away from an appropriate combination by recommending changing the color of the mold when detection becomes problematic (with column 4, lines 18-25 cited in support of this assertion). Shibata *et al.* disclose (column 4, lines 10-27) "When the difference between luminance of the image of the plastic material and that of the material of the mold is too small, it is desirable to process the surface of the cavity or the core to enlarge the difference. Further, plastic material is generally colored in various colors such as red, green and blue, and the surface of the mold is ordinarily gray. Accordingly, the difference between luminances of the images of the plastic material and the mold can be enlarged by providing a color filter between the mold and the image forming means. The color filter may be either one which selectively cuts off the spectral range of the color of the plastic material or one which selectively transmits the spectral range of the color.

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Such a color filter may also be disposed between the image forming medium and the photosensors. When the surface of the mold is processed to have high reflectivity, it is preferred to use a color filter to darken the image of the plastic material." Shibata *et al.* teach to enlarge the difference between luminance of the image of the plastic material and that of the mold material by processing the surface of the cavity or the core to have high reflectivity or by providing a color filter. Moreover, even if applicant's argument is considered, a recolored mold can be used to enlarge the difference between image of the radiation emitted by the plastic material and that emitted by the mold material. Further, Shibata *et al.* teach examining a product with an optical testing device (see Fig. 1; column 1, lines 15-18) which is responsive to the luminance from a product (column 7, lines 3-8) in order to determine if there is incomplete separation of the molded article from the injection mold (column 1, lines 8-18). Thus the motivation to incorporate the teaching of Shibata *et al.* is disclosed by Shibata *et al.* (see also column 1, line 20 to column 2, line 68 of Shibata *et al.*). Therefore it would have been obvious to one having ordinary skill in the art to provide a step of directing ultraviolet light to at least a portion of the mold and detecting luminance from fluorescent colorant of remaining molding material in the method of Hill *et al.*, in order to determine if there is incomplete separation of the molded article from the injection mold (*i.e.*, that the remaining molding material comprises either the workpiece or portions of the workpiece) as taught by Shibata *et al.*

Conclusion


7. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Shun Lee whose telephone number is (703) 308-4860. The examiner can normally be reached on Tuesday-Thursday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Frank Font can be reached on (703) 308-4881. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9318 for regular communications and (703) 872-9319 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.


CONSTANTINE HANNAHER
PRIMARY EXAMINER
GROUP ART UNIT 2878

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May 17, 2002